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09/638,091	08/11/2000	John J. Andres	500700	7546

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EXAMINER

PREVIL, DANIEL

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 10/23/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/638,091

Applicant(s)

ANDRES ET AL.

Examiner

Daniel Previl

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,627,515) in view of Keeler et al. (US 6,384,723).

Regarding claim 1, Anderson discloses the step of sensing a first hazardous condition (the sensor units could represent smoke detectors such as ionization-type smoke detectors or photoelectric-type smoke detectors) (col. 3, lines 61-63) and generating an alarm signal on the single line (a fire was present in the vicinity of the detector S4 and would energize the audible and visual alarm devices) (col. 4, lines 59-60).

Anderson discloses every feature of the claimed invention but fails to explicitly disclose at least one voltage pulse having a duration less than 100 milliseconds.

However, Keeler discloses at least one voltage pulse having a duration less than 5 Msec (fig. 3-fig. 6; col. 6, lines 8-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of

Keeler in Anderson. Doing so would communicate devices to determine if an alarm condition exists at any of the smoke or gas sensors, wherein the sensors would be able to quickly detect a true fire, while being able to resistant false fire indications.

Regarding claims 2-3, the above combination discloses all the limitations in claim 1 and Keeler further discloses a plurality of voltage pulses to form a multi-bit alarm signal (col. 1, lines 39-48). Same motivation as claim 1.

Regarding claim 4, the above combination discloses all the limitations and Keeler further discloses an upper nibble of the eight-bit alarm signal and a lower nibble of the eight bit (fig. 5).

Regarding claims 5-6, the above combination fails to discloses a duration between approximately 25 to 50 milliseconds every 100 milliseconds to form the multi-bit alarm signal. Since, Keeler discloses a duration of less than 5 Msec (col. 6, lines 23-26). It is well known in the art to use a duration between 25 to 50 milliseconds every 100 milliseconds to quickly detect a true fire, while being able to resistant false fire indicators. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a duration between 25 to 50 milliseconds to quickly detect a true fire, while being able to resistant false fire indicators.

Regarding claim 7, the above combination discloses all the limitations in claim 1 and Keeler further discloses a plurality of voltages pulses at a frequency of approximately 10 hertz (fig. 3).

Regarding claim 8, Anderson discloses alarm signal is repeated periodically during the first sensed hazardous condition (col. 5, lines 4-19).

Regarding claims 9-10, the above combination discloses all the limitations and Keeler further discloses a first multi-bit pattern and a second multi-bit pattern of the first hazardous condition (fig. 5).

Regarding claim 11, Anderson discloses a smoke condition (col. 3, lines 60-65); generating a smoke alarm signal on the single signal line (col. 4, lines 58-61).

Anderson fails to discloses a DC voltage signal having a duration longer than 100 milliseconds.

However, Keeler discloses a DC voltage level (col. 5, line 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Keeler in Anderson. Doing so would provide electrical energy during the communication process. Wherein, the type of information can be easily identify to prevent false alarm.

Moreover, the above combination fails to disclose a duration longer than 100 milliseconds. Since, Keeler discloses a duration of less than 5

Msec (col. 6, lines 23-26). It is well known in the art to use a duration longer than 100 milliseconds to quickly detect a true fire, while being able to resistant false fire indicators. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a duration longer than 100 milliseconds to quickly detect a true fire, while being able to resistant false fire indicators.

Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Keeler.

Regarding claims 12, 15, 19, Anderson discloses an alarm circuit (microprocessor 16 via interface circuitry 20 is in communication with audible and visual alarm device) (col. 4, lines 4-6); an interconnection I/o circuit (the microprocessor 16 is in bi-directional communication with the input/output control panel 14) (col. 3, lines 51-52); a microcontroller coupled to the alarm circuit and the interconnection I/O circuit, the microcontroller determines a first alarm condition and a second alarm condition (col. 4, lines 4-11); the microcontroller determining the first alarm condition (smoke detectors) (col. 3, lines 56-63), and to generate a second alarm condition upon determining the second alarm condition (gas

detectors such as carbon monoxide detectors) (col. 3, lines 3, lines 56-67; col. 4, lines 1-11).

Anderson fails to disclose a DC voltage signal; a duration less than 100 milliseconds.

However, Keeler discloses a DC voltage level (col. 5, line 8); a duration less than 100 milliseconds (a duration of less than 5 Msec) (col. 6, lines 8-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Keeler in Anderson. Doing so would provide electrical energy during the communication process. Wherein, the type of information can be easily identify to prevent false alarm.

Regarding claim 13, Anderson discloses a microprocessor determining an appropriate alarm pattern for the first alarm condition from the pattern (col. 3, lines 56-64).

Regarding claim 14, Anderson discloses a microprocessor determining an operating mode from the pattern (microprocessor can communicate with each of the detectors) (col. 4, lines 20-27).

Regarding claim 16, the above combination discloses all the limitations in claim 12 and Keeler further discloses an eight bit alarm message (fig. 5; col. 2, lines 31-34).

Regarding claims 17-18, the above combination discloses all the limitations in claim 12 and Keeler further discloses a DC voltage to signify a logic level 1, an output ground to signify a logic level 0 (fig. 1A; col. 1, lines 39-48).

3. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Keeler and further in view of Klein et al. (US 3,872,355).

Regarding claim 20, Anderson discloses a first hazardous condition detector (smoke detector) (col. 3, lines 62-63); a second hazardous condition detector (carbon monoxide detector) (col. 3, lines 64-65).

Anderson fails to disclose a multi bit alarm message, a constant DC level and a 3-wire interconnect coupling first detector to second detector .

However, Keeler discloses a multi-bit alarm message (fig. 5; col. 2, lines 31-34); a DC voltage level (col. 5, line 8).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Keeler in Anderson. Doing so would provide electrical energy during the communication process. Wherein, the type of information can be easily identify to prevent false alarm.

Moreover, Klein discloses a third wire (fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Klein in Anderson and Keeler. Doing so would communicate devices to determine if an alarm condition exists at any of the smoke or gas sensors,



wherein the sensors would be able to quickly detect a true fire, while being able to resistant false fire indications.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ahmed (US 4,114,089) discloses a ground fault detecting apparatus including current-responsive threshold detective circuitry.

Funk (US 4,080,568) discloses an energy monitoring device.

Godwin (US 5,898,369) discloses a communicating hazardous condition detector.

Gnagi et al. (US 3,665,461) discloses an apparatus for monitoring the conductors or lines of fire alarm installations.

Kimura (US 4,733,224) discloses a detector system with multiple sensors each sensing different danger conditions.

Ogawa (US 4,163,226) discloses an alarm condition detecting apparatus and method.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is 703 305-1028. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel WU can be reached on 703 308-6730. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-4700.

Daniel Previl  
Examiner  
Art Unit 2632

DP  
October 20, 2002

  
DANIEL J. WU  
Primary Examiner  
10/21/02